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INFRARED ILLUMINATOR AND OPTICAL AMPLIFYING MEDIUM

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Abstract of JP2003283028

PROBLEM TO BE SOLVED: To obtain a glass material that emits light or displays function of optical amplification in an infrared wavelength zone, especially in the wide wavelength range that is used for optical communication without containing rare earths and is stable.

SOLUTION: A light emitting glass body or optical amplifying medium comprises a glass composition having a bismuth oxide, silicon dioxide, aluminum oxide and bivalent metal oxide as essential constituents and presenting fluorescence in an infrared wavelength zone by the irradiation of excitation light. This glass composition is heat-treated to form crystallized glass, and thereby, thermal stability is further improved. The wavelength of excitation light is in the range of 400 nm to 850 nm, and the wavelength at which the intensity of fluorescence becomes a maximum is in the range of 1000 nm to 1800 nm. The optical amplifying medium has the gain of amplification in at least a part of wavelength zone in the wavelength range of 1000 nm to 1400 nm.

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